ETAS
DRIVING EMBEDDED EXCELLENCE

INCA V7.3-SP1 – What's New

Changes / Extensions done in this Service Pack

INCA V7.3-SP1 – What's New

Overview

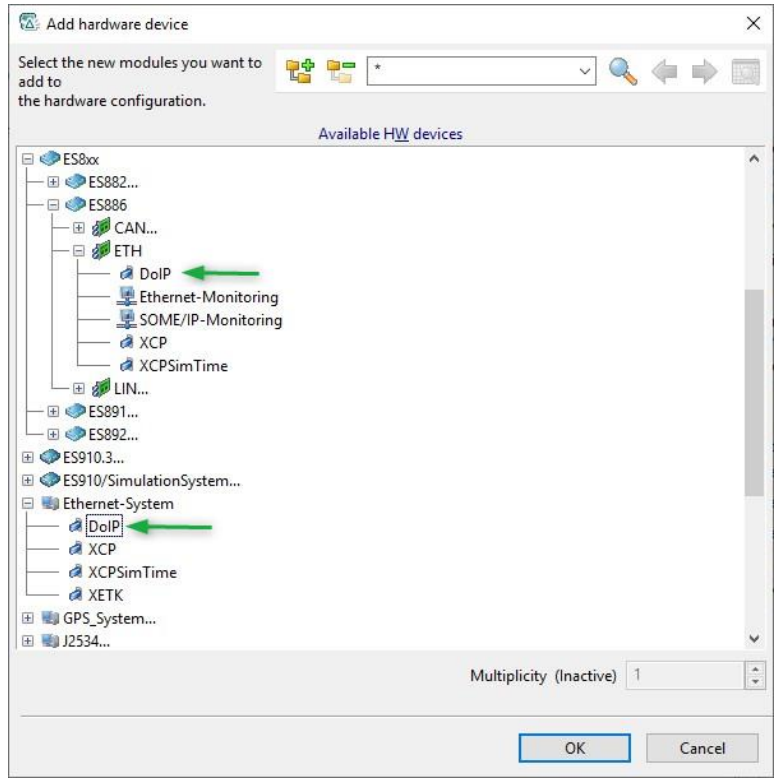
1. **Product information (Use cases, Sample applications, Customer value)**
   - Performance
   - **Functionality**
   - Standards
   - Usability
   - HW support
   - Add-ons
2. **INCA Product Family**
3. **Phase out information**
4. **General Notes**

INCA V7.3-SP1 – What's New

Functionality

DoIP – Measurement and Calibration over UDS on Ethernet

- INCA 7.3.1 now supports **M**easurement, **C**alibration, **D**iagnostics (with INCA-ODX Add-on) and **F**lashing via DoIP according to ISO13400-2 (**D**iagnostic Communication **o**ver **IP** - UDS on Ethernet)
- Prerequisites: A2L file with `IF_DATA ASAP1B_DIAGNOSTIC_SERVICES` section containing the DoIP communication parameters according to the new AML V320 (template available from ETAS)
- To use DoIP with INCA or ODX-LINK, a DoIP device has to be configured in the HWC below an ES886 or Ethernet System and an A2L project has to be assigned
- All known UDS measurement modes are supported for DoIP. INCA will use the same UDS service sequences as for UDS on CAN/CANFD:
  - Address Mode
  - Block Mode
  - Free Running Mode



INCA V7.3-SP1 – What's New

Functionality

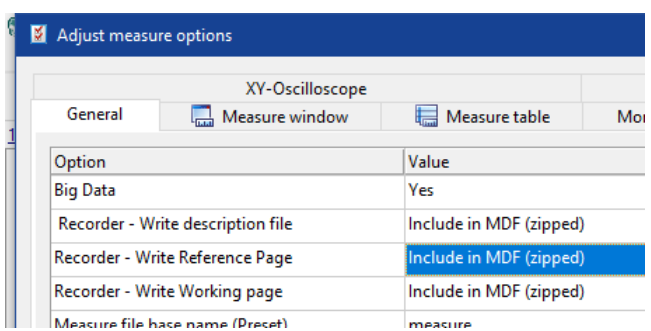
Recorder – Add Calibration Info to support Big Data

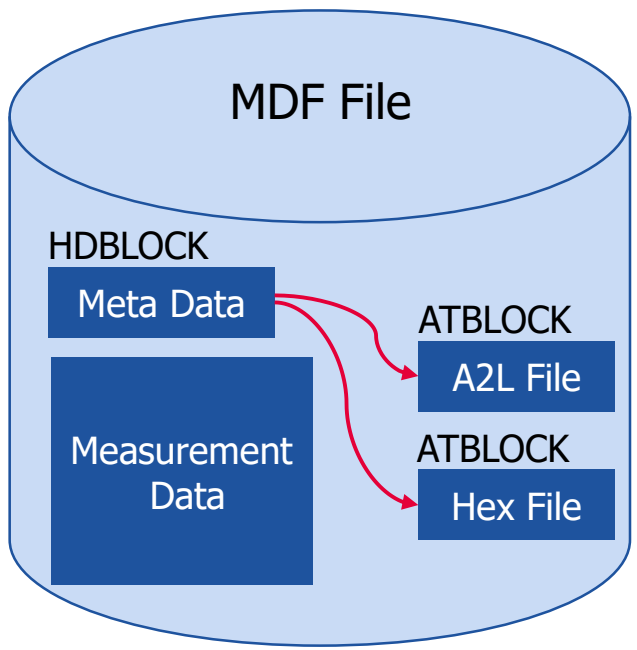
Add description files to the recorded data on which base the measurement was done

- ECU software description (A2L File)
- Data sets loaded to the ECU (Hex File)

With the links in the Meta Data the description files are linked to the related measurements.

INCA adds the description files optionally.





INCA V7.3-SP1 – What's New

Functionality

AUTOSAR – End to End communication protection (E2E) for SOME/IP

There are several defined E2E profiles, each of it implements a combination of E2E protection mechanisms such a sequence counters, data IDs and CRCs.

Inca supports extracting Payload from the right position

INCA will not check any information from the E2E Header.

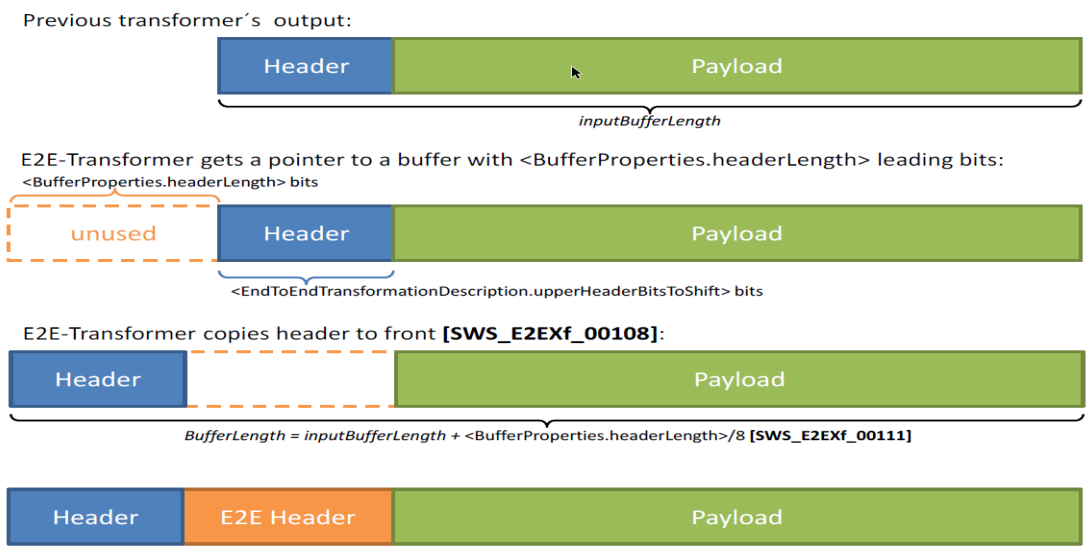


Figure 7-2: Buffer handling of E2EXf_<transformerId>

(Specification of Module E2E Transformer AUTOSAR CP Release 4.4.0 page 23)

INCA V7.3-SP1 – What's New

Functionality

AUTOSAR – V4.4 Support

INCA supports importing Autosar description files with the V4.4 scheme

No additional functionality added to INCA with this version

Description file / Transport layer		Monitor								MC F	F
		CAN	CAN-FD	J1939	LIN	Ethernet/AETH			FlexRay	XCP on Flexray	UDS on Flexray
Desc. File	Version						DoIP	Some/IP			
AUTOSAR	3.0	NS	NA	NS	NS	NA	NA	NA	NS	NS	NS
	3.1	V7.3.0	NA	NS	NS	NA	NA	NA	NS	NS	NS
	3.2	V7.3.0	NA	NS	NS	NA	NA	NA	V7.3.0	V7.3.0	NS
	4.1	OK	OK	NS	NS	NS	NS	NS	OK	V7.2.12	NS
	4.2	OK	OK	NS	NS	NS	NS	NS	OK	V7.2.12	NS
	4.3.0	OK	OK	NS	NS	V7.2.14	NS	V7.2.15	OK	V7.2.12	NS
	4.3.1	V7.2.11	V7.2.11	NS	NS	V7.2.14	NS	V7.2.15	V7.2.11	V7.2.12	NS
	4.4.0	V7.3.1	V7.3.1	NS	NS	V7.3.1	NS	V7.3.1	V7.3.1	V7.3.1	NS
	R19-11	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
FIBEX	1.1.5a	NS	NA	NA	NS	NA	NA	NA	V7.3.0	V7.3.0	V7.3.0
	1.2.0a	NS	NA	NA	NS	NA	NA	NA	V7.3.0	V7.3.0	V7.3.0
	2.0.0	NS	NA	NA	NS	NA	NA	NA	V7.3.0	V7.3.0	V7.3.0
	2.0.1	NS	NA	NA	NS	NA	NA	NA	V7.3.0	V7.3.0	V7.3.0
	FIBEX+	NS	NA	NA	NS	NA	NA	NA	V7.3.0	V7.3.0	V7.3.0
	3.0	NS	NA	NA	NS	NA	NA	NA	V7.3.0	V7.3.0	V7.3.0
	3.1	NS	NA	NA	NS	NA	NA	NA	OK	OK	OK
	4.1.0	NS	NS	NA	NS	NS	NS	NS	NS	NS	NS
	4.1.1	NS	NS	NA	NS	NS	NS	NS	NS	NS	NS
	4.1.2	NS	NS	NA	NS	NS	NS	NS	NS	NS	NS
CAN DBC		OK	OK	OK	NA	NA	NA	NA	NA	NA	NA
J1939 DBC		NA	NA	OK	NA	NA	NA	NA	NA	NA	NA
LDF	1.2	NA	NA	NA	OK	NA	NA	NA	NA	NA	NA
	1.3	NA	NA	NA	OK	NA	NA	NA	NA	NA	NA
	2.0	NA	NA	NA	OK	NA	NA	NA	NA	NA	NA
	2.1	NA	NA	NA	OK	NA	NA	NA	NA	NA	NA
	2.2	NA	NA	NA	OK	NA	NA	NA	NA	NA	NA

OK	Feature available in INCA
NA	Not applicable
NS	Not supported
V7.3.0	Not supported anymore

INCA V7.3-SP1 – What's New

Functionality

XCP V1.4 – Support of Packed DAQ Lists (DAQ Packed Mode)

Target: Reduce the number of interrupts of the controller/ECU and measure with faster Events.

Reduce overhead ➔ optimization of busload.

Support for CAN-FD/Ethernet communication for **dynamic** DAQ lists now.

Support of element-grouped and event-grouped packed mode.

EVENT cycle time down to 1µs supported.

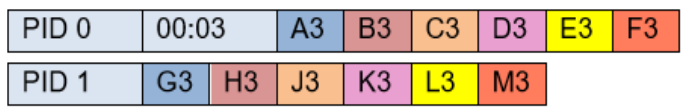


Figure 8 Standard DTO format

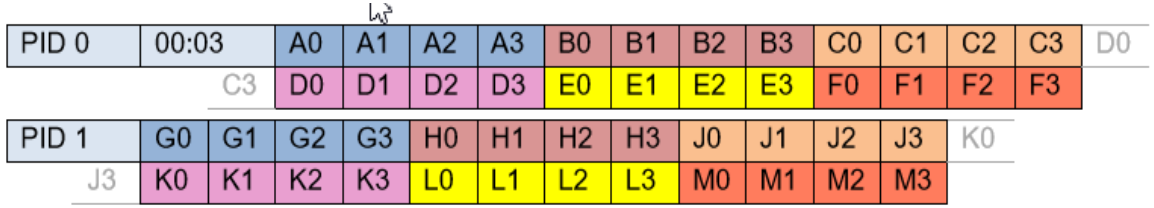


Figure 9 DTO format in element-grouped packed mode.[1]

Figure 10 DTO format in event-grouped packed mode.[1]

Figures taken from XCP specification V1.4

INCA V7.3-SP1 – What's New

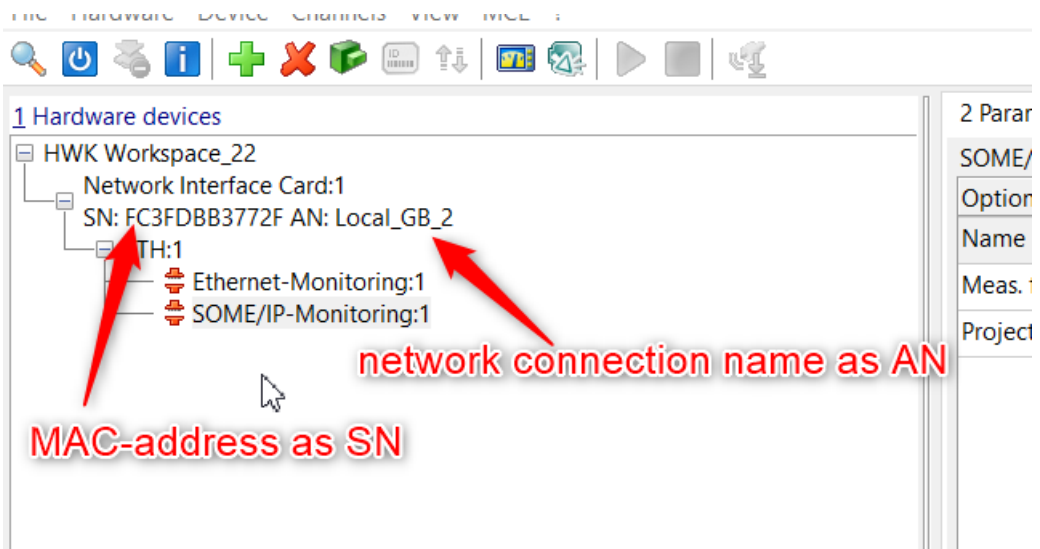
Functionality

Ethernet/SOME_IP Monitoring on local network cards

INCA supports local network cards for Some/IP and Ethernet monitoring interface.

WinPcap 4.1.3

This feature prerequisites the manually installation of WinPcap V4.1.3
To receive Jumbo frames or VLAN tagged frames additional network card specific setting could be needed.
Network cards with not unique MAC address will be ignored (e.g. virtual network loop back adapter).
Network cards with DHCP IP address will be ignored.



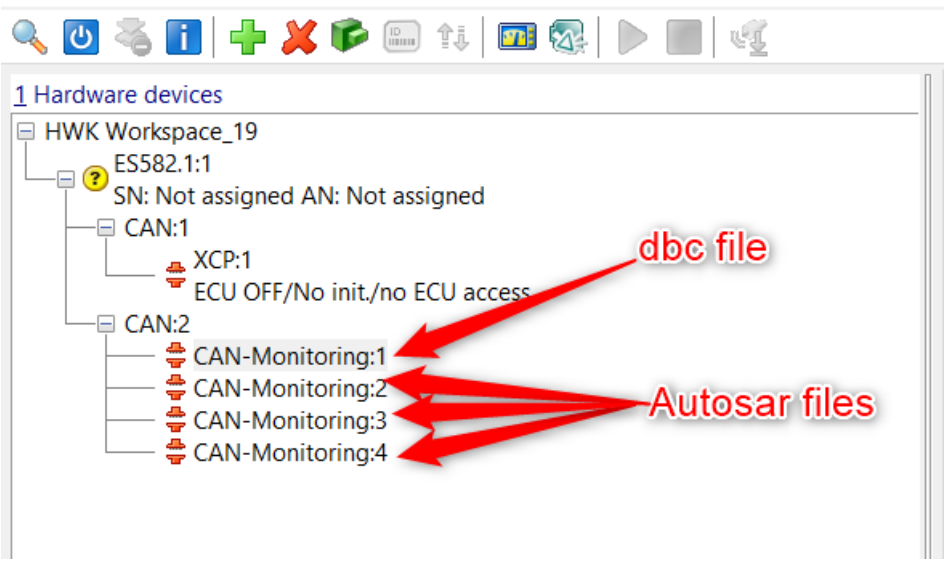
INCA V7.3-SP1 – What's New

Functionality

Allow more than one CAN-Monitoring device below CAN/CAN-FD node

INCA supports now up to 4 descriptions files on 1 physical CAN/CAN-FD channel

- Supported are dbc and Autosar files
- The configuration can contain a mixture of these kind of files



INCA V7.3-SP1 – What's New

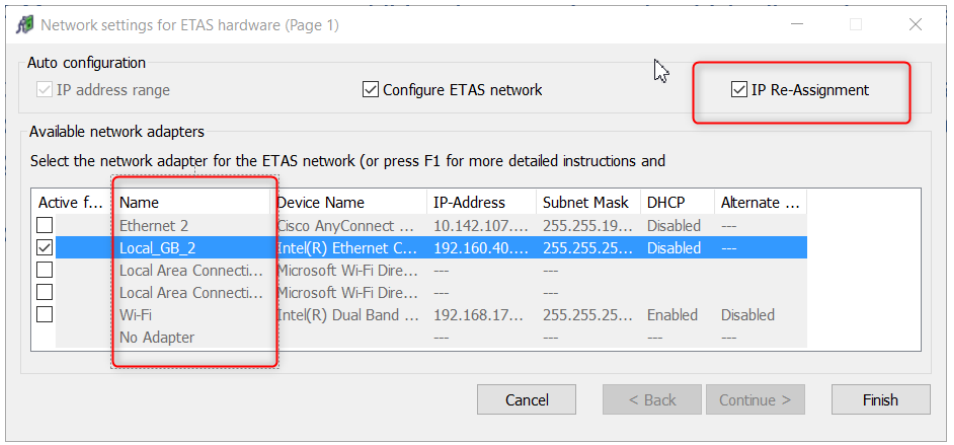
Functionality

IP-Manager option to activate/deactivate automatic IP re-assignment

The IP-Manager supports now an additional automatic mode which allows the user an easier HW IP re-assignment.

With this option the IP-Manager automatically allocates all found HW which are already configured to another network to the current network. This helps if the user is going from car to car and colleagues are working with different IP settings in the same cars.

Added new column with network connection name.



INCA V7.3-SP1 – What's New

Overview

1. **Product information (Use cases, Sample applications, Customer value)**
   - Performance
   - Functionality
   - Standards
   - Usability
   - HW support
   - **Add-ons**
2. **INCA Product Family**
3. **Phase out information**
4. **General Notes**

INCA V7.3-SP1 – What's New

Functionality

MATLAB – Support of MATLAB 2020A

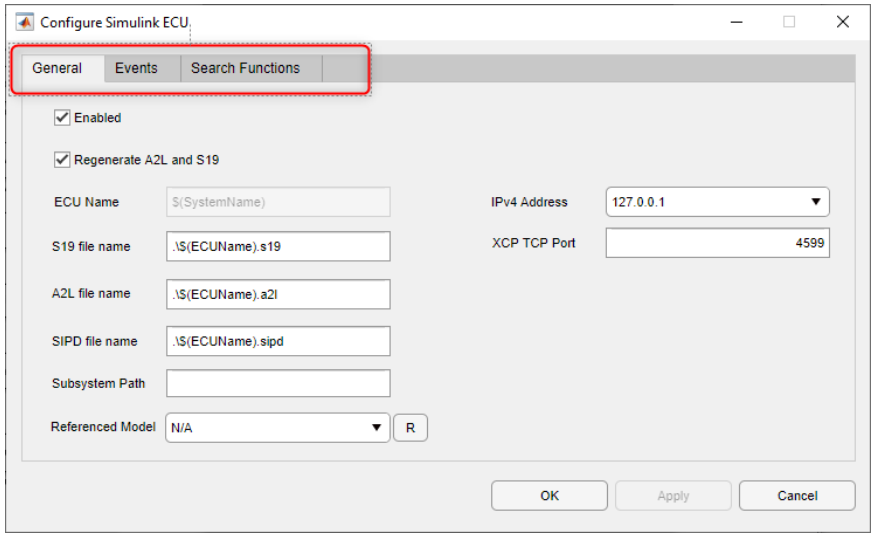
- INCA-SIP & INCA-MIP

Improvement of referenced models functionality in INCA-SIP

- Users can choose whether they want to include all referenced models at once or a specific subset

User interface improvements for INCA-SIP

- New arrangement of UI elements into meaningful groups



INCA V7.3-SP1 – What's New

Overview

1. **Product information (Use cases, Sample applications, Customer value)**
   - Performance
   - Functionality
   - Standards
   - Usability
   - HW support
   - Add-ons

2. **INCA Product Family**

3. **Phase out information**

4. **General Notes**

INCA V7.3-SP1 – What's New

General Data Protection Regulation

Compliance to General Data Protection Regulation

Please note that personal data is processed when using INCA. As the controller, the purchaser undertakes to ensure the legal conformity of these processing activities in accordance with Art. 4 No. 7 of the General Data Protection Regulation (GDPR).
As the manufacturer, ETAS GmbH is not liable for any mishandling of this data.

Data categories
Please note that INCA particularly records the following personal data (categories), and/or data (categories) that can be traced back to a specific individual, for the purposes of assisting with troubleshooting

- Communication data: IP address, date and time
- User data: The user's Windows UserID

Further information to this topic is available in the INCA installation handbook and the INCA online help.

INCA V7.3-SP1 – What's New

INCA Training

Seminars offered at ETAS locations worldwide or at customer site

Deep skills and sound knowledge are essential prerequisites for handling software tools of ever-rising complexity. Our trainers are highly experienced engineers in the field of engineering and support, who relish sharing knowledge on ETAS products and development processes. Target groups for the trainings are beginners, advanced users and those who wish to expand their existing knowledge.

INCA – Calibration (3 days)

- Practical operation of the software and the knowledge of the INCA fundamentals
- Get to know the advantages and disadvantages of various calibration concepts

INCA - Advanced Calibration Techniques (2 days)

- Advanced functionalities in INCA, Tips & Tricks. INCA experience is required
- Workshop part, bring in your own problem statement

INCA - FLOW Coaching

- Using your own calibration tasks to see the benefits of INCA-Flow in your daily work

Some ETAS local offices have their own training programs which are specialized for the local needs. Please contact our local office of your area for the details: https://www.etas.com/en/trainings.php

INCA V7.3-SP1 – What's New

Virtual Machines

Usage of virtual PC machines

The usage of INCA on a virtual machine (VM) is restricted and not recommended:

- The VM needs sufficient working memory (RAM), otherwise the performance of INCA goes down
- Access to sufficient graphic card memory (Direct X) is necessary, otherwise the oscilloscope representation of measurement signal is not possible
- Access to hardware interfaces Ethernet, USB, PCMCIA, … is necessary, otherwise INCA cannot use the connected hardware
- Measure samples may be lost and the accuracy of time stamps is not guaranteed as the higher task priority for hardware access (Target Server) is not given
- ETAS does no special tests concerning VM machines

ETAS recommends to use real PC hardware.

INCA V7.3-SP1 – What's New

System Requirements

Minimum System Requirements
- 2 GHz Processor, 2 GB RAM, and DVD-ROM drive *)
- Graphics: at least 1024x768, 256MB RAM, 16bit color and DirectX 9

Recommended System Requirements
- 3 GHz Quad-Core Processor, 16 GB RAM, and DVD-ROM drive *)
- Graphics: at least 1280x1024, 1GB RAM, 32bit color and DirectX 9
- Windows 10 64Bit
- Investigation on performance showed
  - More Memory improves execution time of repetitive operations
  - SSD Hard disks improve the file access times

Supported OS
- Windows 8.1 64Bit
- Windows 10 64Bit (version 1803 or higher)
- Windows 10 64Bit Enterprise (LTSC 2016 or higher)

*) Needed for installation via DVD only
Not necessary when installing via network

INCA V7.3-SP1 – What's New

General Notes

Additionally Installed Components	INCA V7.3
.Net-Runtime-Environment	V4.8[1)]
VCxRedist (Vcredist_x86 / Vcredist_x64)	VC9+VC10 +VC14
JAVA SDK Version j2sdk1.4.2_11	X[2)]
Perl V5.8.6	X
ETAS Certificate	X
Direct X	V9 (or higher)
ETASShared	13
Windows 8.1 64 bit	X[3)]
Windows 10 64bit	X[3)]

1) This component is installed only when no or an older version is installed. If a newer version is already installed, it will not be touched. This is checked by a Microsoft installation routine.
2) This component is installed only with ODX LINK
3) For hardware driver support see release notes

ETAS

DRIVING EMBEDDED EXCELLENCE

Thank you